

people, and are, as a rule, unassociated with any other form of cardiac-vascular abnormality. This phenomenon forms a fairly definite clinical picture, and may be readily recognized.

2. Systolic murmurs, limited to or heard with greatest intensity at the apex, but audible only in the recumbent posture.

Murmurs, such as these, are very common in healthy young men and women. They are commoner, perhaps, in nervous or thin, emotional people, but are often found in robust youths and girls. The murmurs may be very slight and feeble, or they may be fairly loud. They do not replace the first sound, which in itself is distinct, sometimes well defined, sometimes prolonged. The murmur may be transmitted for some little distance into the axilla, and is commonly accentuated in the left lateral posture; indeed, it is not infrequently heard only in this posture. On standing up, or sitting, the murmur entirely disappears. There is no further evidence of cardio-vascular defect. Such murmurs may be heard all over the cardiac area; sometimes they are loudest in the pulmonary area. In the erect posture, however, they clear up at the apex, leaving only the pulmonary systolic, which, as has been said, disappears on inspiration.

3. Cardio-respiratory murmurs.

As is well known, there has been much discussion as to the frequency of murmurs arising in the respiratory tract, but dependent upon cardiac action, and suggesting, on cursory examination, a true endocardial sound.

Potain* sought to explain all non-organic heart murmurs by the cardio-pulmonary hypothesis.

To the careful observer, the existence of cardio-pulmonary murmurs is not a question of doubt. They form, however, a definite class and are usually easily recognizable. They are commonly systolic in time, but rather late, occurring an instant after a clear-cut first sound. They are often short and of a character different on analysis from that of the ordinary soft intra-cardiac murmurs. The important point is that they are limited to one phase of the respiration, disappearing, as a rule, when the breath is held. The commonest form is that which is heard with the several beats occurring during inspiration. In these cases careful attention reveals clearly that the murmur is simply an intensification of the respiratory murmur, and sharply limited to the period of ventricular systoles. These murmurs are often more intense on effort with rapid, forceful, cardiac action, and on deep breathing.

What is of special importance is the fact that *they are often heard with great intensity in the back.*

*Clinique méd. de la Charité, 8°, Paris, 1891, Masson.